

## **REMARKS**

This is a full and timely response to the outstanding non-final Office Action mailed November 16, 2007. Claims 1-29 remain pending in the present application. Reconsideration and allowance of the application and the presently pending claims are respectfully requested.

### 1. Indication of Allowable Subject Matter

Applicants acknowledge the Examiner's statement in the outstanding Office Action in which claims 10-13 and 29 have been indicated as being allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and/or rewritten to overcome any outstanding objections/rejections of form.

In that it is believed that every rejection and objection has been overcome in the present response, it is respectfully submitted that each of the claims that remains in the case is presently in condition for allowance.

### 2. Response to Objection of Claims

Claims 1, 14-15, and 20-22 have been objected to because of various informalities. The claims have been amended to correct the formalities cited in the Office Action. Withdrawal of the objections is respectfully requested.

### 3. Response to Rejection of Claims under 35 U.S.C. § 102

Claims 1-9 and 14-28 have been rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by *Kaish* (U.S. Patent No. 5,974,150).

#### a. Claim 1

As provided in independent claim 1, Applicants claim:

A method for determining the authenticity of an object, the method comprising the steps of:

- receiving an authentication code,
- ***determining if particles are distributed within the object in a three-dimensional pattern,***
- determining positions of particles distributed in the object,

- using the determination of the positions to provide a check-code,
- using the check-code and the authentication-code to determine the authenticity of the object.

(Emphasis added).

Applicants respectfully submit that independent claim 1 is allowable for at least the reason that *Kaish* does not disclose, teach, or suggest at least “determining if particles are distributed within the object in a three-dimensional pattern,” as emphasized above.

For example, *Kaish* describes an authentication technique using a sheet of material impregnated with dichroic fibers or dichroic microspheres. See col. 12, lines 13-17 and col. 14, lines 9-11. Based on the location and characteristics of the fibers/microspheres (e.g., orientation, dot intensity, size, marking pattern, etc.), a message or code may be obtained. *Kaish* fails to teach or suggest, however, that objects in the material are determine to be distributed in a three-dimensional pattern. Rather, *Kaish* discloses that three different measurements (x, y,  $\theta$ ) of a fiber’s position can be used for authentication purposes and fails to disclose that the positioning of particles is determined to be in three-dimensions or that particles are determined to be distributed in a three-dimensional pattern. As such, *Kaish* does not teach or suggest at least “determining if particles are distributed within the object in a three-dimensional pattern,” as recited in claim 1.

As a result, claim 1 is not anticipated by *Kaish*, and the rejection should be withdrawn.

b. Claims 2-9 and 14

Claim 1 is allowable over the cited art of record for at least the reasons given above. Since claims 2-9 and 14 depend from claim 1 and recite additional features, claims 2-9 and 14 are allowable as a matter of law over the cited art of record.

c. Claim 15

As provided in independent claim 15, Applicants claim:

An authentication device comprising:

- means for determining positions of particles distributed within an object in a three-dimensional pattern,
- **means for determining if particles are distributed within the object in three dimensions,**
- means for encoding the determined positions to provide a check-code,
- means for entering an authentication code,
- means for determining the authenticity of the object based on the check-code and the authentication code.

(Emphasis added).

Applicants respectfully submit that independent claim 15 is allowable for at least the reason that *Kaish* does not disclose, teach, or suggest at least “means for determining if particles are distributed within the object in three dimensions,” as emphasized above.

For example, *Kaish* describes an authentication technique using a sheet of material impregnated with dichroic fibers or dichroic microspheres. See col. 12, lines 13-17 and col. 14, lines 9-11. Based on the location and characteristics of the fibers/microspheres (e.g., orientation, dot intensity, size, marking pattern, etc.), a message or code may be obtained. *Kaish* fails to teach or suggest, however, that objects in the material are determine to be distributed in a three-dimensional pattern. Rather, *Kaish* discloses that three different measurements (x, y,  $\theta$ ) of a fiber’s position can be used for authentication purposes and fails to disclose that the position of particles is determined to be in three-dimensions or that particles are determined to be distributed in a three-dimensional pattern. As such, *Kaish* does not teach or suggest at least “means for determining if particles are distributed within the object in three dimensions,” as recited in claim 15.

As a result, claim 15 is not anticipated by *Kaish*, and the rejection should be withdrawn.

d. Claims 16-19

Claim 15 is allowable over the cited art of record for at least the reasons given above. Since claims 16-19 depend from claim 14 and recite additional features, claims 16-19 are allowable as a matter of law over the cited art of record.

e. Claim 20

As provided in independent claim 20, Applicants claim:

A card reader for authenticating a customer card, the customer card having an authentication label carrying a three-dimensional pattern of randomly distributed particles, the card reader comprising:

- ***apparatus for determining if the particles are distributed within the object in three dimensions and for determining positions of particles,***
- an encoder for encoding of the determined positions to provide a check-code,
- an interface for receiving an authentication code,
- a processor for determining the authenticity of the object based on the check-code and the authentication code.

(Emphasis added).

Applicants respectfully submit that independent claim 20 is allowable for at least the reason that *Kaish* does not disclose, teach, or suggest at least an “apparatus for determining if the particles are distributed within the object in three dimensions and for determining positions of particles,” as emphasized above.

For example, *Kaish* describes an authentication technique using a sheet of material impregnated with dichroic fibers or dichroic microspheres. See col. 12, lines 13-17 and col. 14, lines 9-11. Based on the location and characteristics of the fibers/microspheres (e.g., orientation, dot intensity, size, marking pattern, etc.), a message or code may be obtained. *Kaish* fails to teach or suggest, however, that objects in the material are determine to be distributed in a three-dimensional pattern. Rather, *Kaish* discloses that three different measurements (x, y,  $\theta$ ) of a fiber’s position can be used for authentication purposes and fails to disclose that the position of particles is determined to be in three-dimensions or that particles are determined to be distributed in a three-dimensional pattern. As such, *Kaish* does not teach or suggest at

least an “apparatus for determining if the particles are distributed within the object in three dimensions and for determining positions of particles,” as recited in claim 20.

As a result, claim 20 is not anticipated by *Kaish*, and the rejection should be withdrawn.

f. Claim 21

As provided in independent claim 21, Applicants claim:

An electronic device for reading a data carrier, the data carrier having a copy protection label, the copy protection label carrying a three-dimensional pattern of distributed particles, the electronic device comprising:

- ***an optical sensor for determining if particles are distributed within the copy protection label in three dimensions and for determining the positions of particles,***
- an encoder for encoding of the determined positions to provide a check-code,
- an interface for receiving an authentication code,
- a processor for determining the authenticity of the object based on the check-code and the authentication code.

(Emphasis added).

Applicants respectfully submit that independent claim 21 is allowable for at least the reason that *Kaish* does not disclose, teach, or suggest at least “an optical sensor for determining if particles are distributed within the copy protection label in three dimensions and for determining the positions of particles,” as emphasized above.

For example, *Kaish* describes an authentication technique using a sheet of material impregnated with dichroic fibers or dichroic microspheres. See col. 12, lines 13-17 and col. 14, lines 9-11. Based on the location and characteristics of the fibers/microspheres (e.g., orientation, dot intensity, size, marking pattern, etc.), a message or code may be obtained. *Kaish* fails to teach or suggest, however, that objects in the material are determined to be distributed in a three-dimensional pattern. Rather, *Kaish* discloses that three different measurements (x, y,  $\theta$ ) of a fiber's position can be used for authentication purposes and fails to disclose that the position of particles is determined to be in three-dimensions or that particles are determined to be distributed in a three-dimensional pattern. As such, *Kaish* does not teach or suggest at

least “an optical sensor for determining if particles are distributed within the copy protection label in three dimensions and for determining the positions of particles,” as recited in claim 21.

As a result, claim 21 is not anticipated by *Kaish*, and the rejection should be withdrawn.

g. Claim 22

As provided in independent claim 22, Applicants claim:

- An electronic device for authentication of an object comprising:
- ***an apparatus for determining if the object has a three-dimensional pattern of distributed particles,***
  - a measurement component for determining positions of particles,
  - an encoding apparatus for encoding the determined positions to provide a check-code,
  - an interface for receiving an authentication code,
  - a processor for determining the authenticity of the object based on the check-code and the authentication code.

(Emphasis added).

Applicants respectfully submit that independent claim 22 is allowable for at least the reason that *Kaish* does not disclose, teach, or suggest at least “an apparatus for determining if the object has a three-dimensional pattern of distributed particles,” as emphasized above.

For example, *Kaish* describes an authentication technique using a sheet of material impregnated with dichroic fibers or dichroic microspheres. See col. 12, lines 13-17 and col. 14, lines 9-11. Based on the location and characteristics of the fibers/microspheres (e.g., orientation, dot intensity, size, marking pattern, etc.), a message or code may be obtained. *Kaish* fails to teach or suggest, however, that objects in the material are determine to be distributed in a three-dimensional pattern. Rather, *Kaish* discloses that three different measurements (x, y,  $\theta$ ) of a fiber’s position can be used for authentication purposes and fails to disclose that the position of particles is determined to be in three-dimensions or that particles are determined to be distributed in a three-dimensional pattern. As such, *Kaish* does not teach or suggest at

least "an apparatus for determining if the object has a three-dimensional pattern of distributed particles," as recited in claim 22.

As a result, claim 22 is not anticipated by *Kaish*, and the rejection should be withdrawn.

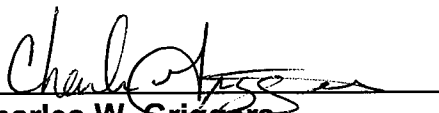
h. Claims 23-28

Claim 22 is allowable over the cited art of record for at least the reasons given above. Since claims 23-28 depend from claim 22 and recite additional features, claims 23-28 are allowable as a matter of law over the cited art of record.

**CONCLUSION**

For at least the reasons set forth above, Applicants respectfully submit that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned agent at (770) 933-9500.

Respectfully submitted,

  
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